Data Validation Checklist
Semivolatile Organic Analyses

Project:	35TH Avenue Superfund Site	Project No:	60430028; 1
Laboratory:	TestAmerica – Savannah, GA	Job ID.:	680-115692-3
Method:	SW-846 8270D Low-Level (PAH)	Associated Samples:	Refer to **Attachment A** (Sample Summary)
Matrix:	Soil	Samples Collected:	08/12/2015 and 08/13/2015
Reviewer:	Kelly Brannigan, URS Group, Inc.	Date:	01/27/2016
Concurrence[1]:	Martha Meyers-Lee, URS Group, Inc.	Date:	02/02/2016

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
1. Were sample storage and preservation requirements met? If temperature >6°C, then J/UJ flag results.	✓				
2. Were all COC records signed and integrity seals intact, indicating that COC was maintained for all samples?	✓				
3. Were there any problems noted in laboratory data package concerning condition of samples upon receipt?		✓			
4. Do any soil samples contain more than 50% water? If yes, then results are to be reported on a wet-weight basis.		✓			
5. Were holding times met (≤7 and 14 days from collection to extraction for aqueous and solid samples, respectively; ≤40 days from extraction to analysis)? If not, then J/UJ flag sample results. If grossly (2x) exceeded, then flag J/R.	✓				
6. Were results for all project-specified target analytes reported?	✓				
7. Were project-specified Reporting Limits achieved for undiluted sample analyses?	✓				
8. Were samples with analyte concentrations exceeding the calibration range of the instrument re-analyzed at a higher dilution? If not, then J flag sample result.	✓				
9. Was a method blank extracted with each batch (i.e., one per 20 samples, per batch, per matrix and per level)?	✓				
10. Were target analytes detected in the method blank?		✓			
11. Are equipment/rinsate blanks associated with every sample? If no, note in DV report.		✓		According to the QAPP, a rinsate blank is to be collected after each decontamination event, which occurs once per week per the client. A rinsate blank is not associated with this sampling event. Blank contamination will be evaluated based on method blank results.	
12. Were target analytes detected in equipment/rinsate blanks?			✓		
13. Were analytes detected in samples below the blank contamination action level? If yes, U flag positive sample results <5x associated blank concentration (10x for common blank contaminants–phthalates)			✓	Target analytes were not detected during the analysis of method blanks.	

[1] Independent technical reviewer

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
14. Is a field duplicate associated with this Job?	✓			• 680-115692-45 (CV0511Z-CSD-6) is a duplicate of 680-115692-44 (CV0511Z-CS-6) • 680-115692-56 (CV0511H-CSD-6) is a duplicate of 680-115692-55 (CV0511Z-CSD-6) • 680-115692-58 (CV0511AA-CSD-6) is a duplicate of 680-115692-57 (CV0511AA-CS-6).	
15. Was precision deemed acceptable as defined by the project plans?		✓		Refer to **Attachment B** (Field Duplicate Evaluation)	J/UJ
16. Were DFTPP ion abundance criteria (i.e., Table 3 of SW-846 8270D) met? If no, professional judgment may be applied to determine to what extent the data may be utilized.	✓			Alternate tuning criteria were used by the laboratory (i.e., EPA Method 525.2). All ion abundance criteria were met per EPA Method 525.2.	
17. Were samples analyzed within 12 hours of the DFTPP tune? If no, professional judgment may be applied to determine to what extent the data may be utilized.	✓				
18. Were initial and continuing calibration standards analyzed at the proper frequency for each instrument? • Ensure that a minimum of five standards are used for the initial calibration. If no, use professional judgment to determine the effect on the data and note in the reviewer narrative. • An initial calibration is to be associated with each sample analysis. • A continuing calibration standard is to be analyzed for every 12 hours of sample analysis per instrument.	✓			• Instrument ID: CMSD • Initial Calibration: 08/13/2015 • ICV: 08/13/2015 @ 21:39 • CCV: 08/19/2015 @ 12:53[2] • Instrument ID: CMSY • Initial Calibration: 08/12/2015 • ICV: 08/12/2015 @ 17:06 • CCV: 08/20/2015 @ 13:30[3]	
19. Were calibration results within laboratory/project specifications? • ICAL (Criteria: ≤20 mean %RSD (≤50% for poor performers), OR r≥0.995, OR r^2≥0.99, and RRF ≥0.050 (≥0.010 for poor performers)): o If %RSD>20 (>50% for poor performers), or r <0.995, or r^2 <0.995, then J flag positive results and UJ flag non-detects o If mean RRF <0.050 (<0.010 for poor performers), then J flag positive results and R flag non-detects (unless the lab analyzed a detectability check standard) • ICV and CCV (ICV Criteria: ≤ ±30%D; CCV Criteria: ≤ ±20%D (≤50% for poor performers) and RF ≥0.050 (≥0.010 for poor performers)): o If %D> Control Limit (>50% for poor performers), then J flag positive results and UJ flag non-detects o If RF <0.050 (<0.010 for poor performers), then UJ flag non-detected semivolatile target compounds		✓		ICV of 08/13/2015 @ 21:39 (ICV 680-396042/9), instrument CMSD: 1,1'-Biphenyl @ 39.4%D (Lab/Project: ≤30). None[4]	
20. Was a LCS prepared for each batch and matrix?	✓				
21. Were LCS recoveries within lab control limits? If no, J flag positive	✓				

[2] Associated samples: 680-115692-42 through -57
[3] Associated samples: 680-115692-41, -58, -59, and -60
[4] Qualification of data is not required, as the analyte is not a target analyte; project specifications were also met.

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
results when %R >Upper Control Limit (UCL) and J/R flag results when %R <Lower Control Limit (LCL).					
22. Were LCS/LCSD RPD within lab specifications? If no, J flag positive results and UJ flag non-detects			✓	LCS only	
23. Was a MS/MSD pair extracted at the proper frequency (one per 20 samples per batch)?	✓				
24. Is the MS/MSD parent sample a project-specific sample?	✓			Batch 396561: 680-115691-41 (CV00511Y-CS-12), MS/MSD	
25. For all analytes with native sample concentrations < 4 x spiking level, were MS and MSD recoveries within laboratory/project specifications? *Only QC results for project samples that are reported under this Job ID are evaluated.* • If the native sample concentration > 4x spiking level, then an evaluation of interference is not possible. • If either MS or MSD recovery meets control limits, qualification of data is not warranted. • MS and MSD %R<10: J and R Flag positive and ND results, respectively • MS and MSD %R >10 and <LCL: J Flag positive and UJ flag non-detect results • MS and MSD R% >UCL (or 140): J Flag positive results		✓		All MS recoveries were greater than the UCL, and 11 of 18 MSD recoveries were less than the LCL. Refer to **Attachment C** (MS/MSD Evaluation). J/UJ-Flag all results in sample CV00511Y-CS-12 due to matrix interference.	J/UJ
26. For all analytes with native sample concentrations < 4 x spiking level, were laboratory criteria met for precision during the MS and MSD analyses? *Only QC results for project samples that are reported under this Job ID are evaluated.* • If the native sample concentration > 4x spiking level, then an evaluation of interference is not possible. • If %RPD > UCL, J flag positive result and UJ flag non-detect result.		✓		All RPDs were greater than the laboratory control limit during the MS and MSD analyses of sample CV00511Y-CS-12. Refer to **Attachment C** (MS/MSD Evaluation). J/UJ-Flag all results in sample CV00511Y-CS-12 due to matrix interference.	J/UJ
27. Were surrogate recoveries within lab/project specifications? • If %R for 1 Acid or BN surrogates <10, then J flag positive and R flag non-detect associated sample results (i.e., acid or BN results) • If 2 or more Acid or BN %R >UCL, then J flag positive associated sample results (i.e., acid or BN results) • If 2 or more Acid or BN %R ≥10%, but <LCL, then J flag positive and UJ flag non-detect associated sample results (i.e., acid or BN results) • If 2 or more Acid or BN , with 1 %R >UCL and 1 %R ≥10%, but <LCL, then J flag positive and UJ flag non-detect associated sample results (i.e., acid or BN results)		✓		Surrogate o-terphenyl was not recovered (0%) during the diluted analysis of samples 680-114892-41, -45, -46, -51, -55, and -56. Qualification of sample results is not warranted, as the surrogate compound was diluted out of the samples.	
28. Were internal standard (IS) results within lab/project specifications? • If IS area counts are less than 50% of the midpoint calibration standard, then J flag positive and UJ flag non-detect associated	✓				

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
sample results • If IS area counts are greater than 100% of the midpoint calibration standard, then J flag positive results • If extremely low area counts are reported or performance exhibits a major abrupt drop-off, then a severe loss of sensitivity is indicated, J flag positive and R flag non-detect results • If retention time of sample's internal standard is not within 30 seconds of the associated calibration standard, R flag associated data. • The chromatographic profile for that sample must be examined to determine if any false positives or negatives exists. For shifts of large magnitude, the reviewer may consider partial or total rejection of the data for that sample fraction. Positive results need not be qualified as R, if mass spectral criteria are met.					
29. Were lab comments included in report?	✓			Refer to **Attachment D** (Case Narrative)	

Comments: The data validation was conducted in accordance with the *Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1* (OTIE, October 2012). The data review process was modeled after the *USEPA Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Organic Methods Data Review* (EPA, October 1999) and *USEPA CLP NFG for Low Concentration Organic Methods Data Review* (EPA, June 2001). Sample results have been qualified based on the results of the data review process (**Attachment E**). Criteria for acceptability of data were based upon available site information, analytical method requirements, guidance documents, and professional judgment.

DV Flag Definitions:

J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ	The analyte was not detected above the limit, and the limit is approximate and may be inaccurate or imprecise.
U	The analyte was analyzed for, but was not detected above the associated level; blank contamination may exist.
R	The sample results are unusable. The analyte may or may not be present in the sample.

Acronyms:

%	Percent
%D	Percent difference
%R	Percent recovery
%RSD	Percent relative standard deviation
°C	Degrees Celsius
BN	Base/Neutral
CCV	Continuing calibration verification
CLP	Contract laboratory program
COC	Chain-of-custody
DFTPP	Decafluorotriphenylphosphine
DV	Data validation
EPA	Environmental Protection Agency
ICAL	Initial calibration
ICV	Initial calibration verification
IS	Internal standard
LCL	Lower control limit
LCS	Laboratory control sample

Data Validation Checklist (Continued)

LCSD	Laboratory control sample duplicate
MS	Matrix spike
MSD	Matrix spike duplicate
NFG	National Functional Guidelines
PAH	Polynuclear aromatic hydrocarbons
QAPP	Quality Assurance Project Plan
QC	Quality control
RF	Response factor
RPD	Relative percent difference
RRF	Relative response factor
SW-846	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, EPA. Available: http://www3.epa.gov/epawaste/hazard/testmethods/index.htm [February 2, 2016]
UCL	Upper control limit

ATTACHMENT A

SAMPLE SUMMARY

SAMPLE SUMMARY

Client: Oneida Total Integrated Enterprises LLC

Job Number: 680-115692-3
Sdg Number: 680-115692-03

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-115692-41	CV0511Y-CS-12	Solid	08/12/2015 0945	08/15/2015 1050
680-115692-41MS	CV0511Y-CS-12	Solid	08/12/2015 0945	08/15/2015 1050
680-115692-41MSD	CV0511Y-CS-12	Solid	08/12/2015 0945	08/15/2015 1050
680-115692-42	CV0511Y-CS-18	Solid	08/12/2015 0950	08/15/2015 1050
680-115692-43	CV0511Y-CS-24	Solid	08/12/2015 0955	08/15/2015 1050
680-115692-44	CV0511Z-CS-6	Solid	08/12/2015 1030	08/15/2015 1050
680-115692-45	CV0511Z-CSD-6	Solid	08/12/2015 1030	08/15/2015 1050
680-115692-46	CV0511Z-CS-12	Solid	08/12/2015 1035	08/15/2015 1050
680-115692-47	CV0511Z-CS-18	Solid	08/12/2015 1040	08/15/2015 1050
680-115692-48	CV0511Z-CS-24	Solid	08/12/2015 1045	08/15/2015 1050
680-115692-49	CV0511P-CS-6	Solid	08/12/2015 1110	08/15/2015 1050
680-115692-50	CV0511P-CS-12	Solid	08/12/2015 1115	08/15/2015 1050
680-115692-51	CV0511Q-CS-6	Solid	08/12/2015 1250	08/15/2015 1050
680-115692-52	CV0511Q-CS-12	Solid	08/12/2015 1255	08/15/2015 1050
680-115692-53	CV0511Q-CS-18	Solid	08/12/2015 1300	08/15/2015 1050
680-115692-54	CV0511Q-CS-24	Solid	08/12/2015 1305	08/15/2015 1050
680-115692-55	CV0511H-CS-6	Solid	08/12/2015 1350	08/15/2015 1050
680-115692-56	CV0511H-CSD-6	Solid	08/12/2015 1350	08/15/2015 1050
680-115692-57	CV0511AA-CS-6	Solid	08/13/2015 0800	08/15/2015 1050
680-115692-58	CV0511AA-GSD-6	Solid	08/13/2015 0800	08/15/2015 1050
680-115692-59	CV0511AA-GS-12	Solid	08/13/2015 0805	08/15/2015 1050
680-115692-60	CV0511AA-GS-18	Solid	08/13/2015 0810	08/15/2015 1050

ATTACHMENT B

FIELD DUPLICATE EVALUATION

Evaluation of Field Duplicate Results **Attachment B**

Analyte	680-115692-44 CV0511Z-CS-6	RL	680-115692-45 CV0511Z-CSD-6	RL	Unit	Avg. RLx5	RPD	Absolute difference	2x Avg RL	Action
Acenaphthylene	13	8.0	110	83	µg/kg	227.5	NA	**97**	**91**	**J/UJ-flag, absolute difference > 2x Avg RL**
Anthracene	15	8.0	320	83	µg/kg	227.5	NA	**305**	**91**	**J/UJ-flag, absolute difference > 2x Avg RL**
Benzo[a]anthracene	71	8.0	1300	83	µg/kg	227.5	NA	**1229**	**91**	**J/UJ-flag, absolute difference > 2x Avg RL**
Benzo[a]pyrene	59	8.0	1100	83	µg/kg	227.5	NA	**1041**	**91**	**J/UJ-flag, absolute difference > 2x Avg RL**
Benzo[b]fluoranthene	89	8.0	1200	83	µg/kg	227.5	NA	**1111**	**91**	**J/UJ-flag, absolute difference > 2x Avg RL**
Benzo[g,h,i]perylene	27	8.0	480	83	µg/kg	227.5	NA	**453**	**91**	**J/UJ-flag, absolute difference > 2x Avg RL**
Benzo[k]fluoranthene	48	8.0	980	83	µg/kg	227.5	NA	**932**	**91**	**J/UJ-flag, absolute difference > 2x Avg RL**
Chrysene	94	8.0	1300	83	µg/kg	227.5	NA	**1206**	**91**	**J/UJ-flag, absolute difference > 2x Avg RL**
Dibenz(a,h)anthracene	13	8.0	170	83	µg/kg	227.5	NA	**157**	**91**	**J/UJ-flag, absolute difference > 2x Avg RL**
Fluoranthene	120	8.0	2000	83	µg/kg	227.5	NA	**1880**	**91**	**J/UJ-flag, absolute difference > 2x Avg RL**
Indeno[1,2,3-cd]pyrene	25	8.0	550	83	µg/kg	227.5	NA	**525**	**91**	**J/UJ-flag, absolute difference > 2x Avg RL**
1-Methylnaphthalene	9.9	8.0		83	µg/kg	227.5	NA	**9.9**	**91**	None, absolute difference ≤ 2x Avg RL
2-Methylnaphthalene	10	8.0		83	µg/kg	227.5	NA	**10**	**91**	None, absolute difference ≤ 2x Avg RL
Naphthalene	22	8.0	42 J	83	µg/kg	227.5	NA	**20**	**91**	None, absolute difference ≤ 2x Avg RL
Phenanthrene	48	8.0	740	83	µg/kg	227.5	NA	**692**	**91**	**J/UJ-flag, absolute difference > 2x Avg RL**
Pyrene	100	8.0	2300	83	µg/kg	227.5	NA	**2200**	**91**	**J/UJ-flag, absolute difference > 2x Avg RL**

Note: If the analyte was not detected, then the cell was left blank.

µg/kg - micrograms per kilogram
J - Estimated value
NA - Not applicable
RL - Reporting limit
RPD - Relative percent difference
UJ - Not detected and the limit is estimated

Precision is based on either the absolute difference between sample results or RPD. If the sample results are less than or equal to 5x's the RL, then precision is based on the absolute difference between duplicate results. If sample results >5x's RL, then precision is evaluated using RPD. J-Flag sample results whenever the absolute difference is greater than the RL (2x for soils) or the RPD >20% (50% for soil). Table above presents the results for detected analytes only.

Evaluation of Field Duplicate Results **Attachment B**

Analyte	680-115692-55 CV0511H-CS-6	RL	680-115692-56 CV0511H-CSD-6	RL	Unit	Avg. RLx5	RPD	Absolute difference	2x Avg RL	Action
Acenaphthylene		75	99	74	µg/kg	372.5	NA	**99**	**149**	None, absolute difference ≤ 2x Avg RL
Anthracene	63 J	75	270	74	µg/kg	372.5	NA	**207**	**149**	**J/UJ-flag, absolute difference > 2x Avg RL**
Benzo[a]anthracene	410	75	1100	74	µg/kg	372.5	**91**	NA	NA	**J/UJ-flag, RPD > 50%**
Benzo[a]pyrene	450	75	930	74	µg/kg	372.5	**70**	NA	NA	**J/UJ-flag, RPD > 50%**
Benzo[b]fluoranthene	580	75	870	74	µg/kg	372.5	**40**	NA	NA	None, RPD ≤ 50%
Benzo[g,h,i]perylene	210	75	360	74	µg/kg	372.5	NA	**150**	**149**	**J/UJ-flag, absolute difference > 2x Avg RL**
Benzo[k]fluoranthene	410	75	910	74	µg/kg	372.5	**76**	NA	NA	**J/UJ-flag, RPD > 50%**
Chrysene	420	75	1000	74	µg/kg	372.5	**82**	NA	NA	**J/UJ-flag, RPD > 50%**
Dibenz(a,h)anthracene	74 J	75	120	74	µg/kg	372.5	NA	46	149	None, absolute difference ≤ 2x Avg RL
Fluoranthene	580	75	2000	74	µg/kg	372.5	**110**	NA	NA	**J/UJ-flag, RPD > 50%**
Indeno[1,2,3-cd]pyrene	170	75	360	74	µg/kg	372.5	NA	**190**	**149**	**J/UJ-flag, absolute difference > 2x Avg RL**
2-Methylnaphthalene	37 J	75		74	µg/kg	372.5	NA	**37**	**149**	None, absolute difference ≤ 2x Avg RL
Phenanthrene	180	75	620	74	µg/kg	372.5	NA	**440**	**149**	**J/UJ-flag, absolute difference > 2x Avg RL**
Pyrene	560	75	1900	74	µg/kg	372.5	**109**	NA	NA	**J/UJ-flag, RPD > 50%**

Note: If the analyte was not detected, then the cell was left blank.

µg/kg - micrograms per kilogram
J - Estimated value
NA - Not applicable
RL - Reporting limit
RPD - Relative percent difference
UJ - Not detected and the limit is estimated

Precision is based on either the absolute difference between sample results or RPD. If the sample results are less than or equal to 5x's the RL, then precision is based on the absolute difference between duplicate results. If sample results >5x's RL, then precision is evaluated using RPD. J-Flag sample results whenever the absolute difference is greater than the RL (2x for soils) or the RPD >20% (50% for soil). Table above presents the results for detected analytes only.

Evaluation of Field Duplicate Results **Attachment B**

Analyte	680-115692-57 CV0511AA-CS-6	RL	680-115692-58 CV0511AA-CSD-6	RL	Unit	Avg. RLx5	RPD	Absolute difference	2x Avg RL	Action
Acenaphthylene	6.5 J	7.7	4.9 J	7.7	µg/kg	38.5	NA	**1.6**	**15.4**	None, absolute difference ≤ 2x Avg RL
Anthracene	23	7.7	12	7.7	µg/kg	38.5	NA	**11**	**15.4**	None, absolute difference ≤ 2x Avg RL
Benzo[a]anthracene	170	7.7	75	7.7	µg/kg	38.5	**78**	NA	NA	**J/UJ-flag, RPD > 50%**
Benzo[a]pyrene	150	7.7	84	7.7	µg/kg	38.5	**56**	NA	NA	**J/UJ-flag, RPD > 50%**
Benzo[b]fluoranthene	170	7.7	140	7.7	µg/kg	38.5	**19**	NA	NA	None, RPD ≤ 50%
Benzo[g,h,i]perylene	72	7.7	44	7.7	µg/kg	38.5	**48**	NA	NA	None, RPD ≤ 50%
Benzo[k]fluoranthene	150	7.7	57	7.7	µg/kg	38.5	**90**	NA	NA	**J/UJ-flag, RPD > 50%**
Chrysene	180	7.7	87	7.7	µg/kg	38.5	**70**	NA	NA	**J/UJ-flag, RPD > 50%**
Dibenz(a,h)anthracene	25	7.7	14	7.7	µg/kg	38.5	NA	**11**	**15.4**	None, absolute difference ≤ 2x Avg RL
Fluoranthene	260	7.7	140	7.7	µg/kg	38.5	**60**	NA	NA	**J/UJ-flag, RPD > 50%**
Indeno[1,2,3-cd]pyrene	54	7.7	29	7.7	µg/kg	38.5	NA	**25**	**15.4**	**J/UJ-flag, absolute difference > 2x Avg RL**
1-Methylnaphthalene	5.6 J	7.7	13	7.7	µg/kg	38.5	NA	**7.4**	**15.4**	None, absolute difference ≤ 2x Avg RL
2-Methylnaphthalene	6.0 J	7.7	13	7.7	µg/kg	38.5	NA	**7**	**15.4**	None, absolute difference ≤ 2x Avg RL
Naphthalene	7.4 J	7.7	19	7.7	µg/kg	38.5	NA	**11.6**	**15.4**	None, absolute difference ≤ 2x Avg RL
Phenanthrene	53	7.7	47	7.7	µg/kg	38.5	**12**	NA	NA	None, RPD ≤ 50%
Pyrene	250	7.7	100	7.7	µg/kg	38.5	**86**	NA	NA	**J/UJ-flag, RPD > 50%**

Note: If the analyte was not detected, then the cell was left blank.

µg/kg - micrograms per kilogram
J - Estimated value
NA - Not applicable
RL - Reporting limit
RPD - Relative percent difference
UJ - Not detected and the limit is estimated

Precision is based on either the absolute difference between sample results or RPD. If the sample results are less than or equal to 5x's the RL, then precision is based on the absolute difference between duplicate results. If sample results >5x's RL, then precision is evaluated using RPD. J-Flag sample results whenever the absolute difference is greater than the RL (2x for soils) or the RPD >20% (50% for soil). Table above presents the results for detected analytes only.

ATTACHMENT C

MS/MSD EVALUATION

FORM III
GC/MS SEMI VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 680-115692-3

SDG No.: 680-115692-03

Matrix: Solid Level: Low Lab File ID: 1YF20006.D

Lab ID: 680-115692-41 MS Client ID: CV0511Y-CS-12 MS

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	QC LIMITS REC	#
Acenaphthene	410	120	1070	232	33-130	F1
Acenaphthylene	410	55 J	1100	255	37-131	F1
Anthracene	410	210	4110	951	42-146	F1
Benzo[a]anthracene	410	540	6340	1413	39-157	F1
Benzo[a]pyrene	410	400	3960	867	41-158	F1
Benzo[b]fluoranthene	410	660	5970	1294	35-152	F1
Benzo[g,h,i]perylene	410	240	1440	294	32-150	F1
Benzo[k]fluoranthene	410	230	2380	523	38-148	F1
Chrysene	410	550	5750	1267	38-147	F1
Dibenz(a,h)anthracene	410	87	749	162	32-155	F1
Fluoranthene	410	940	16600	3825	36-147	E F1
Fluorene	410	110	2820	660	36-138	F1
Indeno[1,2,3-cd]pyrene	410	230	1530	317	35-148	F1
1-Methylnaphthalene	410	83 U	669	163	36-130	F1
2-Methylnaphthalene	410	83 U	932	227	42-130	F1
Naphthalene	410	78 J	1160	264	33-130	F1
Phenanthrene	410	630	16900	3965	40-135	E F1
Pyrene	410	730	9080	2039	38-145	E F1

Column to be used to flag recovery and RPD values

FORM III 8270D_LL_PAH

FORM III
GC/MS SEMI VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 680-115692-3

SDG No.: 680-115692-03

Matrix: Solid Level: Low Lab File ID: 1YF20007.D

Lab ID: 680-115692-41 MSD Client ID: CV0511Y-CS-12 MSD

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Acenaphthene	409	376	64	96	50	33-130	F2
Acenaphthylene	409	317	64	111	50	37-131	F2
Anthracene	409	425	52	163	50	42-146	F2
Benzo[a]anthracene	409	467	-19	173	50	39-157	F1 F2
Benzo[a]pyrene	409	302	-25	172	50	41-158	F1 F2
Benzo[b]fluoranthene	409	429	-56	173	50	35-152	F1 F2
Benzo[g,h,i]perylene	409	210	-6	149	50	32-150	F1 F2
Benzo[k]fluoranthene	409	328	24	151	50	38-148	F1 F2
Chrysene	409	471	-20	170	50	38-147	F1 F2
Dibenz(a,h)anthracene	409	207	29	113	50	32-155	F1 F2
Fluoranthene	409	756	-44	183	50	36-147	F1 F2
Fluorene	409	386	67	152	50	36-138	F2
Indeno[1,2,3-cd]pyrene	409	229	0.01	148	50	35-148	F1 F2
1-Methylnaphthalene	409	331	81	68	50	36-130	F2
2-Methylnaphthalene	409	338	83	94	50	42-130	F2
Naphthalene	409	400	79	98	50	33-130	F2
Phenanthrene	409	674	11	185	50	40-135	F1 F2
Pyrene	409	590	-34	176	50	38-145	F1 F2

Column to be used to flag recovery and RPD values

FORM III 8270D_LL_PAH

ATTACHMENT D

CASE NARRATIVE

CASE NARRATIVE
Client: Oneida Total Integrated Enterprises LLC
Project: 35th Avenue Superfund Site
Report Number: 680-115692-3

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 8/15/2015 10:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.8º C and 3.4º C.

SEMIVOLATILE ORGANIC COMPOUNDS (GC/MS) LOW LEVEL PAH

Samples CV0511Y-CS-12 (680-115692-41), CV0511Y-CS-18 (680-115692-42), CV0511Y-CS-24 (680-115692-43), CV0511Z-CS-6 (680-115692-44), CV0511Z-CSD-6 (680-115692-45), CV0511Z-CS-12 (680-115692-46), CV0511Z-CS-18 (680-115692-47), CV0511Z-CS-24 (680-115692-48), CV0511P-CS-6 (680-115692-49), CV0511P-CS-12 (680-115692-50), CV0511Q-CS-6 (680-115692-51), CV0511Q-CS-12 (680-115692-52), CV0511Q-CS-18 (680-115692-53), CV0511Q-CS-24 (680-115692-54), CV0511H-CS-6 (680-115692-55), CV0511H-CSD-6 (680-115692-56), CV0511AA-CS-6 (680-115692-57), CV0511AA-GSD-6 (680-115692-58), CV0511AA-GS-12 (680-115692-59) and CV0511AA-GS-18 (680-115692-60) were analyzed for Semivolatile Organic Compounds (GC/MS) Low level PAH in accordance with EPA SW846 Method 8270D. The samples were prepared on 08/18/2015 and analyzed on 08/19/2015 and 08/20/2015.

Method(s) 8270D_LL_PAH: The following sample(s) required a dilution due to the nature of the sample matrix: CV0511Z-CSD-6 (680-115692-45[10.0]), CV0511Z-CS-12 (680-115692-46[10.0]), CV0511Q-CS-6 (680-115692-51[10.0]), CV0511H-CS-6 (680-115692-55[10.0]) and CV0511H-CSD-6 (680-115692-56[10.0]). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8270D_LL_PAH: The continuing calibration verification (CCV) analyzed in batch 680-396964 was outside the method criteria for the following analyte(s): Dibenz(a,h)anthracene, Fluoranthene, Indeno[1,2,3-cd]pyrene and o-Terphenyl . A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8270D_LL_PAH: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 680-396961 was outside criteria for the following analyte(s): Anthracene. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method(s) 8270D_LL_PAH: The following samples required a dilution due to the abundance of target analytes and the nature of the sample matrix: CV0511Y-CS-12 (680-115692-41), CV0511Y-CS-12 (680-115692-41[MS]) and CV0511Y-CS-12 (680-115692-41[MSD]). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Several analytes have recovery outside criteria high for the MS of sample CV0511Y-CS-12MS (680-115692-41) in batch 680-397188.

Several analytes have recovery outside criteria low for the MSD of sample CV0511Y-CS-12 (680-115692-41) in batch 680-397188. Several analytes exceeded the RPD limit.

Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

METALS (ICP)

Samples CV0511Y-CS-12 (680-115692-41), CV0511Y-CS-18 (680-115692-42), CV0511Y-CS-24 (680-115692-43), CV0511Z-CS-6 (680-115692-44), CV0511Z-CSD-6 (680-115692-45), CV0511Z-CS-12 (680-115692-46), CV0511Z-CS-18 (680-115692-47), CV0511Z-CS-24 (680-115692-48), CV0511P-CS-6 (680-115692-49), CV0511P-CS-12 (680-115692-50), CV0511Q-CS-6 (680-115692-51), CV0511Q-CS-12 (680-115692-52), CV0511Q-CS-18 (680-115692-53), CV0511Q-CS-24 (680-115692-54), CV0511H-CS-6 (680-115692-55), CV0511H-CSD-6 (680-115692-56), CV0511AA-CS-6 (680-115692-57), CV0511AA-GSD-6 (680-115692-58), CV0511AA-GS-12 (680-115692-59) and CV0511AA-GS-18 (680-115692-60) were analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 08/18/2015 and analyzed on 08/19/2015 and 08/20/2015.

Arsenic recovery is outside criteria low for the MSD of sample CV0511Y-CS-12 (680-115692-41) in batch 680-397264. Arsenic exceeded the RPD limit.

Refer to the QC report for details.

Samples CV0511Y-CS-24 (680-115692-43)[10X], CV0511Z-CS-18 (680-115692-47)[10X], CV0511Z-CS-24 (680-115692-48)[10X], CV0511Q-CS-24 (680-115692-54)[10X], CV0511H-CS-6 (680-115692-55)[10X], CV0511H-CSD-6 (680-115692-56)[10X], CV0511AA-GSD-6 (680-115692-58)[10X], CV0511AA-GS-12 (680-115692-59)[20X] and CV0511AA-GS-18 (680-115692-60)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS/MOISTURE

Samples CV0511Y-CS-12 (680-115692-41), CV0511Y-CS-18 (680-115692-42), CV0511Y-CS-24 (680-115692-43), CV0511Z-CS-6 (680-115692-44), CV0511Z-CSD-6 (680-115692-45), CV0511Z-CS-12 (680-115692-46), CV0511Z-CS-18 (680-115692-47), CV0511Z-CS-24 (680-115692-48), CV0511P-CS-6 (680-115692-49), CV0511P-CS-12 (680-115692-50), CV0511Q-CS-6 (680-115692-51), CV0511Q-CS-12 (680-115692-52), CV0511Q-CS-18 (680-115692-53), CV0511Q-CS-24 (680-115692-54), CV0511H-CS-6 (680-115692-55), CV0511H-CSD-6 (680-115692-56), CV0511AA-CS-6 (680-115692-57), CV0511AA-GSD-6 (680-115692-58), CV0511AA-GS-12 (680-115692-59) and CV0511AA-GS-18 (680-115692-60) were analyzed for Percent Solids/Moisture in accordance with TestAmerica SOP. The samples were analyzed on 08/18/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

ATTACHMENT E

QUALIFIED SAMPLE RESULTS

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-3

SDG No.: 680-115692-03

Client Sample ID: CV0511Y-CS-12 | Lab Sample ID: 680-115692-41

Matrix: Solid | Lab File ID: 1YF20008.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/12/2015 09:45

Extract. Method: 3546 | Date Extracted: 08/18/2015 11:10

Sample wt/vol: 29.92(g) | Date Analyzed: 08/20/2015 16:13

Con. Extract Vol.: 1(mL) | Dilution Factor: 10

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 18.6 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 397188 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	120	~~F1 F2~~ J	83	41
208-96-8	Acenaphthylene	55	J ~~F1 F2~~	83	41
120-12-7	Anthracene	210	~~F1 F2~~	83	41
56-55-3	Benzo[a]anthracene	540	~~F1 F2~~	83	41
50-32-8	Benzo[a]pyrene	400	~~F1 F2~~	83	15
205-99-2	Benzo[b]fluoranthene	660	~~F1 F2~~	83	41
191-24-2	Benzo[g,h,i]perylene	240	~~F1 F2~~	83	41
207-08-9	Benzo[k]fluoranthene	230	~~F1 F2~~	83	25
218-01-9	Chrysene	550	~~F1 F2~~	83	41
53-70-3	Dibenz(a,h)anthracene	87	~~F1 F2~~	83	41
206-44-0	Fluoranthene	940	~~F1 F2~~	83	41
86-73-7	Fluorene	110	~~F1 F2~~	83	41
193-39-5	Indeno[1,2,3-cd]pyrene	230	~~F1 F2~~	83	41
90-12-0	1-Methylnaphthalene	83	~~U F1 F2~~ UJ	83	38
91-57-6	2-Methylnaphthalene	83	~~U F1 F2~~ UJ	83	41
91-20-3	Naphthalene	78	~~J F1 F2~~ J	83	41
85-01-8	Phenanthrene	630	~~F1 F2~~	83	30
129-00-0	Pyrene	730	~~F1 F2~~	83	41

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-3

SDG No.: 680-115692-03

Client Sample ID: CV0511Y-CS-18 | Lab Sample ID: 680-115692-42

Matrix: Solid | Lab File ID: 1DF19010.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/12/2015 09:50

Extract. Method: 3546 | Date Extracted: 08/18/2015 11:10

Sample wt/vol: 30.17(g) | Date Analyzed: 08/19/2015 16:55

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 12.8 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396961 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.6	U	7.6	3.8
208-96-8	Acenaphthylene	7.6	U	7.6	3.8
120-12-7	Anthracene	6.8	J	7.6	3.8
56-55-3	Benzo[a]anthracene	49		7.6	3.8
50-32-8	Benzo[a]pyrene	49		7.6	1.4
205-99-2	Benzo[b]fluoranthene	51		7.6	3.8
191-24-2	Benzo[g,h,i]perylene	26		7.6	3.8
207-08-9	Benzo[k]fluoranthene	45		7.6	2.3
218-01-9	Chrysene	55		7.6	3.8
53-70-3	Dibenz(a,h)anthracene	8.1		7.6	3.8
206-44-0	Fluoranthene	57		7.6	3.8
86-73-7	Fluorene	7.6	U	7.6	3.8
193-39-5	Indeno[1,2,3-cd]pyrene	27		7.6	3.8
90-12-0	1-Methylnaphthalene	4.4	J	7.6	3.5
91-57-6	2-Methylnaphthalene	4.7	J	7.6	3.8
91-20-3	Naphthalene	7.4	J	7.6	3.8
85-01-8	Phenanthrene	22		7.6	2.7
129-00-0	Pyrene	62		7.6	3.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	95		36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-3

SDG No.: 680-115692-03

Client Sample ID: CV0511Y-CS-24 | Lab Sample ID: 680-115692-43

Matrix: Solid | Lab File ID: 1DF19011.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/12/2015 09:55

Extract. Method: 3546 | Date Extracted: 08/18/2015 11:10

Sample wt/vol: 30.12(g) | Date Analyzed: 08/19/2015 17:25

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 13.7 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396961 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.7	U	7.7	3.8
208-96-8	Acenaphthylene	7.4	J	7.7	3.8
120-12-7	Anthracene	13		7.7	3.8
56-55-3	Benzo[a]anthracene	66		7.7	3.8
50-32-8	Benzo[a]pyrene	55		7.7	1.4
205-99-2	Benzo[b]fluoranthene	73		7.7	3.8
191-24-2	Benzo[g,h,i]perylene	28		7.7	3.8
207-08-9	Benzo[k]fluoranthene	42		7.7	2.3
218-01-9	Chrysene	76		7.7	3.8
53-70-3	Dibenz(a,h)anthracene	12		7.7	3.8
206-44-0	Fluoranthene	99		7.7	3.8
86-73-7	Fluorene	7.7	U	7.7	3.8
193-39-5	Indeno[1,2,3-cd]pyrene	30		7.7	3.8
90-12-0	1-Methylnaphthalene	3.7	J	7.7	3.6
91-57-6	2-Methylnaphthalene	4.9	J	7.7	3.8
91-20-3	Naphthalene	12		7.7	3.8
85-01-8	Phenanthrene	30		7.7	2.8
129-00-0	Pyrene	95		7.7	3.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	104		36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-3

SDG No.: 680-115692-03

Client Sample ID: CV0511Z-CS-6 | Lab Sample ID: 680-115692-44

Matrix: Solid | Lab File ID: 1DF19012.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/12/2015 10:30

Extract. Method: 3546 | Date Extracted: 08/18/2015 11:10

Sample wt/vol: 29.92(g) | Date Analyzed: 08/19/2015 17:55

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 16.2 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396961 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	8.0	U	8.0	3.9
208-96-8	Acenaphthylene	13	J	8.0	3.9
120-12-7	Anthracene	15		8.0	3.9
56-55-3	Benzo[a]anthracene	71		8.0	3.9
50-32-8	Benzo[a]pyrene	59		8.0	1.4
205-99-2	Benzo[b]fluoranthene	89		8.0	3.9
191-24-2	Benzo[g,h,i]perylene	27		8.0	3.9
207-08-9	Benzo[k]fluoranthene	48		8.0	2.4
218-01-9	Chrysene	94		8.0	3.9
53-70-3	Dibenz(a,h)anthracene	13		8.0	3.9
206-44-0	Fluoranthene	120	J	8.0	3.9
86-73-7	Fluorene	8.0	U	8.0	3.9
193-39-5	Indeno[1,2,3-cd]pyrene	25	J	8.0	3.9
90-12-0	1-Methylnaphthalene	9.9		8.0	3.7
91-57-6	2-Methylnaphthalene	10		8.0	3.9
91-20-3	Naphthalene	22		8.0	3.9
85-01-8	Phenanthrene	48	J	8.0	2.9
129-00-0	Pyrene	100	J	8.0	3.9

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	75		36-131

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-3

SDG No.: 680-115692-03

Client Sample ID: CV0511Z-CSD-6 | Lab Sample ID: 680-115692-45

Matrix: Solid | Lab File ID: 1DF19013.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/12/2015 10:30

Extract. Method: 3546 | Date Extracted: 08/18/2015 11:10

Sample wt/vol: 29.97(g) | Date Analyzed: 08/19/2015 18:26

Con. Extract Vol.: 1(mL) | Dilution Factor: 10

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 19.3 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396961 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	83	U	83	41
208-96-8	Acenaphthylene	110	J	83	41
120-12-7	Anthracene	320		83	41
56-55-3	Benzo[a]anthracene	1300		83	41
50-32-8	Benzo[a]pyrene	1100		83	15
205-99-2	Benzo[b]fluoranthene	1200		83	41
191-24-2	Benzo[g,h,i]perylene	480		83	41
207-08-9	Benzo[k]fluoranthene	980		83	25
218-01-9	Chrysene	1300		83	41
53-70-3	Dibenz(a,h)anthracene	170		83	41
206-44-0	Fluoranthene	2000	J	83	41
86-73-7	Fluorene	83	U	83	41
193-39-5	Indeno[1,2,3-cd]pyrene	550	J	83	41
90-12-0	1-Methylnaphthalene	83	U	83	38
91-57-6	2-Methylnaphthalene	83	U	83	41
91-20-3	Naphthalene	42	J	83	41
85-01-8	Phenanthrene	740	J	83	30
129-00-0	Pyrene	2300	J	83	41

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-3

SDG No.: 680-115692-03

Client Sample ID: CV0511Z-CS-12 | Lab Sample ID: 680-115692-46

Matrix: Solid | Lab File ID: 1DF19014.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/12/2015 10:35

Extract. Method: 3546 | Date Extracted: 08/18/2015 11:10

Sample wt/vol: 29.96(g) | Date Analyzed: 08/19/2015 18:55

Con. Extract Vol.: 1(mL) | Dilution Factor: 10

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 16.7 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396961 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	81	U	81	40
208-96-8	Acenaphthylene	81	U	81	40
120-12-7	Anthracene	68	J	81	40
56-55-3	Benzo[a]anthracene	450		81	40
50-32-8	Benzo[a]pyrene	460		81	14
205-99-2	Benzo[b]fluoranthene	590		81	40
191-24-2	Benzo[g,h,i]perylene	250		81	40
207-08-9	Benzo[k]fluoranthene	390		81	24
218-01-9	Chrysene	480		81	40
53-70-3	Dibenz(a,h)anthracene	91		81	40
206-44-0	Fluoranthene	620		81	40
86-73-7	Fluorene	81	U	81	40
193-39-5	Indeno[1,2,3-cd]pyrene	220		81	40
90-12-0	1-Methylnaphthalene	81	U	81	37
91-57-6	2-Methylnaphthalene	47	J	81	40
91-20-3	Naphthalene	81	U	81	40
85-01-8	Phenanthrene	200		81	29
129-00-0	Pyrene	580		81	40

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-3

SDG No.: 680-115692-03

Client Sample ID: CV0511Z-CS-18 | Lab Sample ID: 680-115692-47

Matrix: Solid | Lab File ID: 1DF19015.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/12/2015 10:40

Extract. Method: 3546 | Date Extracted: 08/18/2015 11:10

Sample wt/vol: 30.37(g) | Date Analyzed: 08/19/2015 19:25

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 17.0 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396961 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	8.0	U	8.0	3.9
208-96-8	Acenaphthylene	8.0	U	8.0	3.9
120-12-7	Anthracene	8.0	U	8.0	3.9
56-55-3	Benzo[a]anthracene	13		8.0	3.9
50-32-8	Benzo[a]pyrene	12		8.0	1.4
205-99-2	Benzo[b]fluoranthene	20		8.0	3.9
191-24-2	Benzo[g,h,i]perylene	9.0		8.0	3.9
207-08-9	Benzo[k]fluoranthene	11		8.0	2.4
218-01-9	Chrysene	19		8.0	3.9
53-70-3	Dibenz(a,h)anthracene	8.0	U	8.0	3.9
206-44-0	Fluoranthene	20		8.0	3.9
86-73-7	Fluorene	8.0	U	8.0	3.9
193-39-5	Indeno[1,2,3-cd]pyrene	7.0	J	8.0	3.9
90-12-0	1-Methylnaphthalene	8.0	U	8.0	3.7
91-57-6	2-Methylnaphthalene	8.0	U	8.0	3.9
91-20-3	Naphthalene	8.0	U	8.0	3.9
85-01-8	Phenanthrene	10		8.0	2.9
129-00-0	Pyrene	18		8.0	3.9

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	85		36-131

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-3

SDG No.: 680-115692-03

Client Sample ID: CV0511Z-CS-24 | Lab Sample ID: 680-115692-48

Matrix: Solid | Lab File ID: 1DF19016.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/12/2015 10:45

Extract. Method: 3546 | Date Extracted: 08/18/2015 11:10

Sample wt/vol: 29.98(g) | Date Analyzed: 08/19/2015 19:55

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 15.4 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396961 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.9	U	7.9	3.9
208-96-8	Acenaphthylene	7.9	U	7.9	3.9
120-12-7	Anthracene	7.9	U	7.9	3.9
56-55-3	Benzo[a]anthracene	7.9	U	7.9	3.9
50-32-8	Benzo[a]pyrene	2.1	J	7.9	1.4
205-99-2	Benzo[b]fluoranthene	7.9	U	7.9	3.9
191-24-2	Benzo[g,h,i]perylene	7.9	U	7.9	3.9
207-08-9	Benzo[k]fluoranthene	7.9	U	7.9	2.4
218-01-9	Chrysene	7.9	U	7.9	3.9
53-70-3	Dibenz(a,h)anthracene	7.9	U	7.9	3.9
206-44-0	Fluoranthene	7.9	U	7.9	3.9
86-73-7	Fluorene	7.9	U	7.9	3.9
193-39-5	Indeno[1,2,3-cd]pyrene	7.9	U	7.9	3.9
90-12-0	1-Methylnaphthalene	7.9	U	7.9	3.7
91-57-6	2-Methylnaphthalene	7.9	U	7.9	3.9
91-20-3	Naphthalene	7.9	U	7.9	3.9
85-01-8	Phenanthrene	7.9	U	7.9	2.8
129-00-0	Pyrene	7.9	U	7.9	3.9

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	79		36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-3

SDG No.: 680-115692-03

Client Sample ID: CV0511P-CS-6 | Lab Sample ID: 680-115692-49

Matrix: Solid | Lab File ID: 1DF19017.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/12/2015 11:10

Extract. Method: 3546 | Date Extracted: 08/18/2015 11:10

Sample wt/vol: 30.03(g) | Date Analyzed: 08/19/2015 20:24

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 9.7 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396961 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	16		7.4	3.6
208-96-8	Acenaphthylene	7.4	U	7.4	3.6
120-12-7	Anthracene	32		7.4	3.6
56-55-3	Benzo[a]anthracene	270		7.4	3.6
50-32-8	Benzo[a]pyrene	280		7.4	1.3
205-99-2	Benzo[b]fluoranthene	290		7.4	3.6
191-24-2	Benzo[g,h,i]perylene	100		7.4	3.6
207-08-9	Benzo[k]fluoranthene	230		7.4	2.2
218-01-9	Chrysene	280		7.4	3.6
53-70-3	Dibenz(a,h)anthracene	36		7.4	3.6
206-44-0	Fluoranthene	470		7.4	3.6
86-73-7	Fluorene	7.5		7.4	3.6
193-39-5	Indeno[1,2,3-cd]pyrene	110		7.4	3.6
90-12-0	1-Methylnaphthalene	7.4	U	7.4	3.4
91-57-6	2-Methylnaphthalene	7.4	U	7.4	3.6
91-20-3	Naphthalene	7.4	U	7.4	3.6
85-01-8	Phenanthrene	170		7.4	2.7
129-00-0	Pyrene	490		7.4	3.6

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	84		36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-3

SDG No.: 680-115692-03

Client Sample ID: CV0511P-CS-12 | Lab Sample ID: 680-115692-50

Matrix: Solid | Lab File ID: 1DF19018.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/12/2015 11:15

Extract. Method: 3546 | Date Extracted: 08/18/2015 11:10

Sample wt/vol: 30.22(g) | Date Analyzed: 08/19/2015 20:54

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 13.3 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396961 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.7	U	7.7	3.8
208-96-8	Acenaphthylene	7.7	U	7.7	3.8
120-12-7	Anthracene	7.7	U	7.7	3.8
56-55-3	Benzo[a]anthracene	25		7.7	3.8
50-32-8	Benzo[a]pyrene	24		7.7	1.4
205-99-2	Benzo[b]fluoranthene	26		7.7	3.8
191-24-2	Benzo[g,h,i]perylene	12		7.7	3.8
207-08-9	Benzo[k]fluoranthene	27		7.7	2.3
218-01-9	Chrysene	24		7.7	3.8
53-70-3	Dibenz(a,h)anthracene	4.5	J	7.7	3.8
206-44-0	Fluoranthene	39		7.7	3.8
86-73-7	Fluorene	7.7	U	7.7	3.8
193-39-5	Indeno[1,2,3-cd]pyrene	12		7.7	3.8
90-12-0	1-Methylnaphthalene	7.7	U	7.7	3.6
91-57-6	2-Methylnaphthalene	7.7	U	7.7	3.8
91-20-3	Naphthalene	7.7	U	7.7	3.8
85-01-8	Phenanthrene	12		7.7	2.7
129-00-0	Pyrene	34		7.7	3.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	88		36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-3

SDG No.: 680-115692-03

Client Sample ID: CV0511Q-CS-6 | Lab Sample ID: 680-115692-51

Matrix: Solid | Lab File ID: 1DF19019.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/12/2015 12:50

Extract. Method: 3546 | Date Extracted: 08/18/2015 11:10

Sample wt/vol: 30.02(g) | Date Analyzed: 08/19/2015 21:23

Con. Extract Vol.: 1(mL) | Dilution Factor: 10

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 10.6 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396961 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	37	J	75	37
208-96-8	Acenaphthylene	75	U	75	37
120-12-7	Anthracene	140		75	37
56-55-3	Benzo[a]anthracene	500		75	37
50-32-8	Benzo[a]pyrene	410		75	13
205-99-2	Benzo[b]fluoranthene	420		75	37
191-24-2	Benzo[g,h,i]perylene	180		75	37
207-08-9	Benzo[k]fluoranthene	360		75	22
218-01-9	Chrysene	500		75	37
53-70-3	Dibenz(a,h)anthracene	70	J	75	37
206-44-0	Fluoranthene	790		75	37
86-73-7	Fluorene	45	J	75	37
193-39-5	Indeno[1,2,3-cd]pyrene	170		75	37
90-12-0	1-Methylnaphthalene	56	J	75	35
91-57-6	2-Methylnaphthalene	63	J	75	37
91-20-3	Naphthalene	120		75	37
85-01-8	Phenanthrene	550		75	27
129-00-0	Pyrene	760		75	37

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-3

SDG No.: 680-115692-03

Client Sample ID: CV0511Q-CS-12 | Lab Sample ID: 680-115692-52

Matrix: Solid | Lab File ID: 1DF19020.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/12/2015 12:55

Extract. Method: 3546 | Date Extracted: 08/18/2015 11:10

Sample wt/vol: 30.05(g) | Date Analyzed: 08/19/2015 21:52

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 13.4 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396961 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	6.1	J	7.7	3.8
208-96-8	Acenaphthylene	11		7.7	3.8
120-12-7	Anthracene	43		7.7	3.8
56-55-3	Benzo[a]anthracene	150		7.7	3.8
50-32-8	Benzo[a]pyrene	100		7.7	1.4
205-99-2	Benzo[b]fluoranthene	130		7.7	3.8
191-24-2	Benzo[g,h,i]perylene	43		7.7	3.8
207-08-9	Benzo[k]fluoranthene	95		7.7	2.3
218-01-9	Chrysene	160		7.7	3.8
53-70-3	Dibenz(a,h)anthracene	19		7.7	3.8
206-44-0	Fluoranthene	270		7.7	3.8
86-73-7	Fluorene	7.3	J	7.7	3.8
193-39-5	Indeno[1,2,3-cd]pyrene	38		7.7	3.8
90-12-0	1-Methylnaphthalene	9.7		7.7	3.6
91-57-6	2-Methylnaphthalene	11		7.7	3.8
91-20-3	Naphthalene	17		7.7	3.8
85-01-8	Phenanthrene	140		7.7	2.8
129-00-0	Pyrene	230		7.7	3.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	81		36-131

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-3

SDG No.: 680-115692-03

Client Sample ID: CV0511Q-CS-18 | Lab Sample ID: 680-115692-53

Matrix: Solid | Lab File ID: 1DF19021.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/12/2015 13:00

Extract. Method: 3546 | Date Extracted: 08/18/2015 11:10

Sample wt/vol: 30.06(g) | Date Analyzed: 08/19/2015 22:21

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 12.9 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396961 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	6.5	J	7.7	3.8
208-96-8	Acenaphthylene	7.3	J	7.7	3.8
120-12-7	Anthracene	39		7.7	3.8
56-55-3	Benzo[a]anthracene	200		7.7	3.8
50-32-8	Benzo[a]pyrene	180		7.7	1.4
205-99-2	Benzo[b]fluoranthene	210		7.7	3.8
191-24-2	Benzo[g,h,i]perylene	76		7.7	3.8
207-08-9	Benzo[k]fluoranthene	140		7.7	2.3
218-01-9	Chrysene	190		7.7	3.8
53-70-3	Dibenz(a,h)anthracene	29		7.7	3.8
206-44-0	Fluoranthene	330		7.7	3.8
86-73-7	Fluorene	6.4	J	7.7	3.8
193-39-5	Indeno[1,2,3-cd]pyrene	69		7.7	3.8
90-12-0	1-Methylnaphthalene	4.3	J	7.7	3.6
91-57-6	2-Methylnaphthalene	6.1	J	7.7	3.8
91-20-3	Naphthalene	7.7		7.7	3.8
85-01-8	Phenanthrene	120		7.7	2.7
129-00-0	Pyrene	280		7.7	3.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	85		36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-3

SDG No.: 680-115692-03

Client Sample ID: CV0511Q-CS-24 | Lab Sample ID: 680-115692-54

Matrix: Solid | Lab File ID: 1DF19022.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/12/2015 13:05

Extract. Method: 3546 | Date Extracted: 08/18/2015 11:10

Sample wt/vol: 30.14(g) | Date Analyzed: 08/19/2015 22:50

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 14.6 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396961 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.8	U	7.8	3.8
208-96-8	Acenaphthylene	7.8	U	7.8	3.8
120-12-7	Anthracene	7.8	U	7.8	3.8
56-55-3	Benzo[a]anthracene	15		7.8	3.8
50-32-8	Benzo[a]pyrene	16		7.8	1.4
205-99-2	Benzo[b]fluoranthene	25		7.8	3.8
191-24-2	Benzo[g,h,i]perylene	8.8		7.8	3.8
207-08-9	Benzo[k]fluoranthene	13		7.8	2.3
218-01-9	Chrysene	23		7.8	3.8
53-70-3	Dibenz(a,h)anthracene	7.8	U	7.8	3.8
206-44-0	Fluoranthene	24		7.8	3.8
86-73-7	Fluorene	7.8	U	7.8	3.8
193-39-5	Indeno[1,2,3-cd]pyrene	8.2		7.8	3.8
90-12-0	1-Methylnaphthalene	4.3	J	7.8	3.6
91-57-6	2-Methylnaphthalene	3.9	J	7.8	3.8
91-20-3	Naphthalene	6.0	J	7.8	3.8
85-01-8	Phenanthrene	14		7.8	2.8
129-00-0	Pyrene	23		7.8	3.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	87		36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-3

SDG No.: 680-115692-03

Client Sample ID: CV0511H-CS-6 | Lab Sample ID: 680-115692-55

Matrix: Solid | Lab File ID: 1DF19023.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/12/2015 13:50

Extract. Method: 3546 | Date Extracted: 08/18/2015 11:10

Sample wt/vol: 29.96(g) | Date Analyzed: 08/19/2015 23:19

Con. Extract Vol.: 1(mL) | Dilution Factor: 10

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 11.0 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396961 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	75	U	75	37
208-96-8	Acenaphthylene	75	U	75	37
120-12-7	Anthracene	63	J	75	37
56-55-3	Benzo[a]anthracene	410		75	37
50-32-8	Benzo[a]pyrene	450		75	14
205-99-2	Benzo[b]fluoranthene	580		75	37
191-24-2	Benzo[g,h,i]perylene	210		75	37
207-08-9	Benzo[k]fluoranthene	410		75	23
218-01-9	Chrysene	420		75	37
53-70-3	Dibenz(a,h)anthracene	74	J	75	37
206-44-0	Fluoranthene	580		75	37
86-73-7	Fluorene	75	U	75	37
193-39-5	Indeno[1,2,3-cd]pyrene	170		75	37
90-12-0	1-Methylnaphthalene	75	U	75	35
91-57-6	2-Methylnaphthalene	37	J	75	37
91-20-3	Naphthalene	75	U	75	37
85-01-8	Phenanthrene	180		75	27
129-00-0	Pyrene	560		75	37

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-3

SDG No.: 680-115692-03

Client Sample ID: CV0511H-CSD-6 | Lab Sample ID: 680-115692-56

Matrix: Solid | Lab File ID: 1DF19024.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/12/2015 13:50

Extract. Method: 3546 | Date Extracted: 08/18/2015 11:10

Sample wt/vol: 29.93(g) | Date Analyzed: 08/19/2015 23:48

Con. Extract Vol.: 1(mL) | Dilution Factor: 10

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 9.0 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396961 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	74	U	74	36
208-96-8	Acenaphthylene	99		74	36
120-12-7	Anthracene	270		74	36
56-55-3	Benzo[a]anthracene	1100		74	36
50-32-8	Benzo[a]pyrene	930		74	13
205-99-2	Benzo[b]fluoranthene	870		74	36
191-24-2	Benzo[g,h,i]perylene	360		74	36
207-08-9	Benzo[k]fluoranthene	910		74	22
218-01-9	Chrysene	1000		74	36
53-70-3	Dibenz(a,h)anthracene	120		74	36
206-44-0	Fluoranthene	2000		74	36
86-73-7	Fluorene	74	U	74	36
193-39-5	Indeno[1,2,3-cd]pyrene	360		74	36
90-12-0	1-Methylnaphthalene	74	U	74	34
91-57-6	2-Methylnaphthalene	74	U	74	36
91-20-3	Naphthalene	74	U	74	36
85-01-8	Phenanthrene	620		74	26
129-00-0	Pyrene	1900		74	36

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-3

SDG No.: 680-115692-03

Client Sample ID: CV0511AA-CS-6 | Lab Sample ID: 680-115692-57

Matrix: Solid | Lab File ID: 1DF19025.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/13/2015 08:00

Extract. Method: 3546 | Date Extracted: 08/18/2015 11:10

Sample wt/vol: 30.14(g) | Date Analyzed: 08/20/2015 00:16

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 13.4 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396961 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.7	U	7.7	3.8
208-96-8	Acenaphthylene	6.5	J	7.7	3.8
120-12-7	Anthracene	23		7.7	3.8
56-55-3	Benzo[a]anthracene	170		7.7	3.8
50-32-8	Benzo[a]pyrene	150		7.7	1.4
205-99-2	Benzo[b]fluoranthene	170		7.7	3.8
191-24-2	Benzo[g,h,i]perylene	72		7.7	3.8
207-08-9	Benzo[k]fluoranthene	150		7.7	2.3
218-01-9	Chrysene	180		7.7	3.8
53-70-3	Dibenz(a,h)anthracene	25		7.7	3.8
206-44-0	Fluoranthene	260		7.7	3.8
86-73-7	Fluorene	7.7	U	7.7	3.8
193-39-5	Indeno[1,2,3-cd]pyrene	54		7.7	3.8
90-12-0	1-Methylnaphthalene	5.6	J	7.7	3.6
91-57-6	2-Methylnaphthalene	6.0	J	7.7	3.8
91-20-3	Naphthalene	7.4	J	7.7	3.8
85-01-8	Phenanthrene	53		7.7	2.8
129-00-0	Pyrene	250		7.7	3.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	83		36-131

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-3

SDG No.: 680-115692-03

Client Sample ID: CV0511AA-GSD-6 | Lab Sample ID: 680-115692-58

Matrix: Solid | Lab File ID: 1YF20013.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/13/2015 08:00

Extract. Method: 3546 | Date Extracted: 08/18/2015 11:10

Sample wt/vol: 30.06(g) | Date Analyzed: 08/20/2015 18:29

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 12.8 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 397188 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.7	U	7.7	3.8
208-96-8	Acenaphthylene	4.9	J	7.7	3.8
120-12-7	Anthracene	12		7.7	3.8
56-55-3	Benzo[a]anthracene	75		7.7	3.8
50-32-8	Benzo[a]pyrene	84		7.7	1.4
205-99-2	Benzo[b]fluoranthene	140		7.7	3.8
191-24-2	Benzo[g,h,i]perylene	44		7.7	3.8
207-08-9	Benzo[k]fluoranthene	57		7.7	2.3
218-01-9	Chrysene	87		7.7	3.8
53-70-3	Dibenz(a,h)anthracene	14		7.7	3.8
206-44-0	Fluoranthene	140		7.7	3.8
86-73-7	Fluorene	7.7	U	7.7	3.8
193-39-5	Indeno[1,2,3-cd]pyrene	29		7.7	3.8
90-12-0	1-Methylnaphthalene	13		7.7	3.5
91-57-6	2-Methylnaphthalene	13		7.7	3.8
91-20-3	Naphthalene	19		7.7	3.8
85-01-8	Phenanthrene	47		7.7	2.7
129-00-0	Pyrene	100		7.7	3.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	75		36-131

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-3

SDG No.: 680-115692-03

Client Sample ID: CV0511AA-GS-12 | Lab Sample ID: 680-115692-59

Matrix: Solid | Lab File ID: 1YF20014.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/13/2015 08:05

Extract. Method: 3546 | Date Extracted: 08/18/2015 11:10

Sample wt/vol: 30.01(g) | Date Analyzed: 08/20/2015 18:56

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 17.9 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 397188 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	8.2	U	8.2	4.0
208-96-8	Acenaphthylene	8.2	U	8.2	4.0
120-12-7	Anthracene	8.2	U	8.2	4.0
56-55-3	Benzo[a]anthracene	21		8.2	4.0
50-32-8	Benzo[a]pyrene	24		8.2	1.5
205-99-2	Benzo[b]fluoranthene	65		8.2	4.0
191-24-2	Benzo[g,h,i]perylene	16		8.2	4.0
207-08-9	Benzo[k]fluoranthene	18		8.2	2.4
218-01-9	Chrysene	38		8.2	4.0
53-70-3	Dibenz(a,h)anthracene	5.6	J	8.2	4.0
206-44-0	Fluoranthene	38		8.2	4.0
86-73-7	Fluorene	8.2	U	8.2	4.0
193-39-5	Indeno[1,2,3-cd]pyrene	11		8.2	4.0
90-12-0	1-Methylnaphthalene	4.5	J	8.2	3.8
91-57-6	2-Methylnaphthalene	4.8	J	8.2	4.0
91-20-3	Naphthalene	6.4	J	8.2	4.0
85-01-8	Phenanthrene	19		8.2	2.9
129-00-0	Pyrene	26		8.2	4.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	76		36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-3

SDG No.: 680-115692-03

Client Sample ID: CV0511AA-GS-18 | Lab Sample ID: 680-115692-60

Matrix: Solid | Lab File ID: 1YF20015.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/13/2015 08:10

Extract. Method: 3546 | Date Extracted: 08/18/2015 11:10

Sample wt/vol: 30.24(g) | Date Analyzed: 08/20/2015 19:23

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 13.0 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 397188 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.6	U	7.6	3.8
208-96-8	Acenaphthylene	7.6	U	7.6	3.8
120-12-7	Anthracene	7.6	U	7.6	3.8
56-55-3	Benzo[a]anthracene	7.6	U	7.6	3.8
50-32-8	Benzo[a]pyrene	7.6	U	7.6	1.4
205-99-2	Benzo[b]fluoranthene	7.6	U	7.6	3.8
191-24-2	Benzo[g,h,i]perylene	7.6	U	7.6	3.8
207-08-9	Benzo[k]fluoranthene	7.6	U	7.6	2.3
218-01-9	Chrysene	7.6	U	7.6	3.8
53-70-3	Dibenz(a,h)anthracene	7.6	U	7.6	3.8
206-44-0	Fluoranthene	7.6	U	7.6	3.8
86-73-7	Fluorene	7.6	U	7.6	3.8
193-39-5	Indeno[1,2,3-cd]pyrene	7.6	U	7.6	3.8
90-12-0	1-Methylnaphthalene	7.6	U	7.6	3.5
91-57-6	2-Methylnaphthalene	7.6	U	7.6	3.8
91-20-3	Naphthalene	7.6	U	7.6	3.8
85-01-8	Phenanthrene	7.6	U	7.6	2.7
129-00-0	Pyrene	7.6	U	7.6	3.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	78		36-131